

AMENDMENT AND CLAIM LISTING

Please amend the claims as follows:

Claim 1 (currently amended)

comprising the steps of:

providing a curing light that includes

a wand adapted to be grasped by a human hand for use in positioning and manipulating the curing light,

an elongate heat sink with a proximal end and a distal end, said proximal end being proximate said wand, said elongate heat sink having a longitudinal axis,

a mounting platform located at said elongate heat sink distal end, said mounting platform being adapted to have a LED chip module mounted on it, and

an LED chip module mounted on said mounting platform, said LED chip module including

a primary heat sink, said primary heat sink having a smaller mass than said elongate heat sink,

a well on said primary heat sink for mounting an LED chip,

an LED chip mounted in said well,

a cover that provides protective covering for said LED chip and which permits light emitted by said LED chip to pass through it to provide usable light exiting from said light module,

powering said LED chip with a pulsed current input at power level I in alternating periods of generally constant intensity current input to the chip followed by periods of rest with no current input in order to minimize heat effect on light output from the chip while maintaining non-pulsed light output from said LED chip,

permitting light to be output from the curing light;

applying said light to a material to be light cured;

wherein the curing light achieves an average power output level is greater than the power output level that would result from powering the same chip with a continuous current

input at level I instead of pulsed current input, due to minimizing heat effect; and

wherein said LED chip is geometrically oriented with respect to said elongate heat sink longitudinal axis so that light emitted directly forward from the front of said LED chip travels in a direction that is at an angle of from about 30 degrees to about 150 degrees with respect to said longitudinal axis.

Claim 2 (previously cancelled).

Claim 3 (previously cancelled).

Claim 4 (previously cancelled).

Please cancel claim 5 without prejudice.

Claim 5 (cancelled).

Please amend claim 6 as follows:

Claim 6 (currently amended)

comprising the steps of:

 providing a curing light that includes
 a wand adapted to be grasped by a human hand for use in positioning and manipulating
 the curing light, said wand want-having a longitudinal axis,
 a secondary heat sink, said elongate heat sink having a longitudinal axis,
 a primary heat sink attached to said secondary heat sink, and
 a light emitting semiconductor chip attached to said primary heat sink,
 powering said LED chip with a pulsed current input at power level I in alternating periods
 of generally constant intensity current input to the chip followed by periods of rest with no
 current input in order to minimize heat effect on light output from the chip while maintaining non-
pulsed light output from said LED chip,

permitting light to be output from the curing light,
applying said light to a material to be light cured;
wherein the curing light achieves an average power output level is greater than the power
output level that would result from powering the same chip with a continuous current input at
level I instead of pulsed current input, due to minimizing heat effect; and
wherein said LED chip is geometrically oriented with respect to said elongate heat sink
longitudinal axis so that light emitted directly forward from the front of said LED chip travels in a
direction that is at an angle of from about 30 degrees to about 150 degrees with respect to said
longitudinal axis.

Claim 7 (previously cancelled).

Claim 8 (previously cancelled).

Claim 9 (previously cancelled).

Claim 10 (previously cancelled).

Please amend claim 11 as follows:

Claim 11 (currently amended) 11. A method as recited in claim 6 claim 7 wherein said current I is between about 25 millamps and 2 amps.

Please cancel claim 12 without prejudice.

Claim 12 (cancelled).

Please amend claim 13 as follows:

Claim 13 (currently amended) 13. A method for curing a composite material

comprising the steps of:

providing a curing light that includes

a wand adapted to be grasped by a human hand for use in positioning and

manipulating the curing light, said wand want having a longitudinal axis,

a primary heat sink, and

a light emitting semiconductor chip attached to said primary heat sink,

a plurality of epitaxial layers in said light emitting semiconductor chip,

at least one of said epitaxial layers being an active layer,

powering said LED chip with a pulsed current input at power level I in alternating periods of generally constant intensity current input to the chip followed by periods of rest with no current input in order to minimize heat effect on light output from the chip while maintaining non-pulsed light output from said LED chip.

permitting said current input to said chip to cause photons to be emitted by said active layer of said chip,

permitting said photons to exit the curing light as light, said light output from the curing light having an average power output level, and

applying said light to a material to be light cured;

wherein said light output average power level is greater than the light output power level that would result from powering said chip a continuous current input at level I instead of pulsed current input due to minimization of heat effect on said chip; and

wherein said LED chip is geometrically oriented with respect to said elongate heat sink longitudinal axis so that light emitted directly forward from the front of said LED chip travels in a direction that is at an angle of from about 30 degrees to about 150 degrees with respect to said longitudinal axis.

Claim 14 (previously cancelled).

Claim 15 (previously cancelled).

Claim 16 (previously cancelled).

Claim 17 (previously cancelled).

Please cancel claim 18 without prejudice.

Claim 18 (cancelled).

Claim 19 (previously cancelled).